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10/10/07

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,768	06/29/2001	Michael H. Chu	2207/11234	6925
7590 KENYON & KENYON 333 W. San Carlos, Street, Suite 600 San Jose, CA 95110-2711			EXAMINER WANG, JIN CHENG	
		ART UNIT 2628		PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	09/895,768	CHU ET AL.
	Examiner	Art Unit
	Jin-Cheng Wang	2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 August 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15, 19 and 21-29 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-15, and 19, 21-29 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's submission dated 8/17/2007 has been entered. Claims 1-2 have been amended. Claims 16-18 and 20 have been canceled. Claims 1-15, and 19, 21-29 are pending in the present application.

Response to Arguments

Applicant's arguments filed August 17, /2007 are not found persuasive in view of the ground of rejection set forth in the present Office Action for the reasons set forth below.

Applicant argues in essence with respect to the claim 1 and similar claims that Adobe After Effects does not show the elements of independent claims 1, 2 and 19 arranged in the same manner as in the claims. However, applicant speculated that Adobe After Effects 4.1 might have arranged the steps in a different manner, while applicant failed to establish his assertion that the claimed subject matter is novel or constitute a new use of old products. In fact, the cited prior art Adobe After Effect 4.1 arranged the method steps in the same manner as applicant's claim invention required, in the anticipation analysis set forth in the present Office Action in a sufficient detail, wherein the sequential steps are performed in Adobe After Effects 4.1 in the same order set forth in the claim 1. This has been given in a sufficient detail in the Office Action wherein the prior art Adobe After Effects 4.1 performs each and every step in the manner arranged in the claim 1 and similar claims. A single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation. Minn.

Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d 1559, 1565 [24 USPQ2d 1321] (Fed. Cir. 1992).

Moreover, Applicant failed to specifically point out in the argument what is “the same manner” applicant really means. Applicant’s vague argument failed to address the non-final Office Action dated 4/17/2007. Its failure is perhaps in part due to applicant’s misapprehension of its burden at the PTO and therefore its failure to introduce evidence -- on which it could have relied here -- sufficient to rebut the examiner’s prima facie case of anticipation of the claimed method set forth in the claim 1 and similar claims. See In re King, 231 USPQ 136 (Fed. Cir. 1986).

By applicant’s arguments, Applicant failed to particularly point out how and why the prior art Adobe After Effects 4.1’s functionality might be arranged in a different manner from the method steps as required by the applicant’s claims. Applicant clearly failed to respond to the examiner’s position in the prior Office Action as well as the present Office Action’s anticipation analysis that Adobe After Effects 4.1 teaches each and every element set forth in the claim 1 and similar claims, and the steps arranged in the claim 1 and similar claims are exactly taught by the cited prior art. In the Office Action, the examiner has cited the relevant portions from Adobe After Effects 4.1 that the prior art has the functionality to perform the steps arranged in the same manner as applicant’s claim invention.

Applicant has failed to show that the examiner’s finding of anticipation was clearly erroneous. Its failure is perhaps in part due to applicant’s misapprehension of its burden at the PTO and therefore its failure to introduce evidence -- on which it could have relied here --

sufficient to rebut the examiner's *prima facie* case of anticipation of the claimed method set forth in the claim 1 and similar claims. See In re King, 231 USPQ 136 (Fed. Cir. 1986).

Moreover, Applicant's argument lacks substance and support in his assertion that Adobe After Effects 4.1 does not show the elements of claims 1, 2, and 19 arranged in the same manner as in the claims. Applicant has not explained in any single sentence why Adobe After Effects 4.1 does not show the elements of claims 1, 2 and 19 arranged in the same manner as in the claims. Applicant failed to directly respond the examiner's non-final rejection dated 4/17/2007 and the examiner's detailed explanation that Adobe After Effects 4.1 has taught each and every element set forth in the claims 1, 2 and 19.

Since applicant's argument is vague, by applicant's argument, applicant may imply that Adobe After Effect 4.1 show the elements of claims 1, 2 and 19, but not arranged in the same manner as in the claims. The examiner respectfully disagrees with the argument that Adobe After Effects 4.1 has arranged the steps not in the same manner as the applicant's claimed invention. Contrary to applicant's assertion that the claimed subject matter is novel or constitutes a new use of old products, the claimed subject matter is anticipated by the prior art and does not constitute a new use of old products.

As set forth in the Office Action, Adobe After Effects 4.1 meet the claimed method steps required by the claim 1 and similar claims. A user of Adobe After Effects 4.1 clearly knows how to manipulate the input video to produce a blended frame according to the functions and operations that allow the method steps to be performed in the same manner as the claimed invention required by the claims. See the Office Action in a sufficient detail that Adobe After Effects 4.1 have each and every function for performing the method steps recited in the claim 1,

claim 2 and claim 19 and the elements are performed in the same manner as required by the claims. The examiner has pointed out that Adobe After Effects 4.1 teaches each and every element set forth in the independent claims 1, 2 and 19 and the functions are performed in the same manner as required by the claims. However, applicant failed to address or directly challenge the examiner's position that Adobe After Effects 4.1 teaches the claim limitations set forth in the claims 1, 2 and 19.

In Remarks, Applicant argues in Page 10 that it is well known in patent law that new uses of old products are patentable. However, applicant failed to support his argument that the claim 1 or the claimed subject matter constitutes a new use of old products. Contrary to applicant's assertion that the claimed subject matter is novel or constitutes a new use of old products, the claimed subject matter is anticipated by the prior art and does not constitute a new use of old products.

For example, applicant failed to provide any argument that claim 1 constitutes a new use of an old product or old products. In fact, claim 1 does not constitute a new use of an old product or old products. While the prior art Adobe After Effects 4.1 teaches the claimed subject matter, the claimed subject matter does not constitute a new use of old products. Applicant further draws in parallel with the cited Federal Circuit cases in Remarks. However, applicant failed to show if there is any similarity of the claimed subject matter and the cited Federal Circuit cases, in any manner, relating his claimed subject matter to new uses of old products. Applicant cannot draw in parallel to the cited prior decisions that are inapplicable to the present case as applicant's claimed subject matter does not constitute new use of old products. Applicant's argument is irrelevant to the claim invention set forth in the present application in view of the cited prior art

because the present case is clearly distinct from the cited Federal Circuit cases and the claim 1 does not constitute a new use of old products. For the reasons given above, because the claimed invention set forth in the claim 1 is anticipated by the prior art of record, applicant's claim 1 does not constitute a new use of old products. Moreover, Applicant failed to provide support that the method claim set forth in the claim 1 provides a new use of old products. Merely applying Adobe After Effects 4.1's functionality to perform the method steps does not constitute a new use or a new discovery of using old products and is remote from a new use of old products. For example, merely writing a MATLAB program to perform a sequence of calculations using the functions of the MATLAB does not constitute a new use of old products. While applicant failed to support his assertion that the claimed subject constitutes "a new use" or "a novel method", without any shrewd of evidence for supporting his assertion, applicant contends that using commercial software to perform the functionality of the method steps constitutes a new use of old products. When Adobe After Effects 4.1 teaches the claim limitations set forth in the claimed subject matter, the claimed subject matter does not constitute "a new use" or "a novel method". Therefore, applicant's argument does not make sense at all. Applicant's argument is irrelevant for this reason discussed above.

Applicant seems to argue that the sequence or ordering of the steps might be novel. However, this sequence or ordering of steps is exactly found in Adobe Effects software 4.1, arranged in the same manner as in the claims.

As addressed in the present Office Action, Claims 1-15, 19, and 21-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Adobe After

Effects Version 4.1 for Macintosh and Windows (www.adobe.com)

wherein a portion of the quoted material is attached for the applicant's convenience.

AS ADDRESSED BELOW, Adobe After Effects Version 4.1 published in 2000 has taught the claim invention set forth in the claim 1.

Adobe After Effects Version 4.1 teaches “rendering a plurality of full frames at a whole number of multiple of a digital video resolution value defining the number of pixels contained in each full frame of the plurality of full frames and at a whole number multiple of a temporal resolution value defining the rate of display of the plurality of full frames on a computer screen”. This function is accomplished with Adobe After Effects Version 4.1 within Chapter 4:

Composition Settings window, e.g., Fig. 4.8, by changing the Frame Rate, Frame Size having width and height of the image frames wherein the frame resolution may be set from 160*120 to 320 **240 or 640*480** which is a whole number of multiple of a digital video resolution value defining the number of pixels. The frame rate may be set to 30 fps or 60 fps at a whole number multiple of a temporal resolution value defining the rate of display of the plurality of full frames. Additionally, Adobe After Effect Version 4.1 teaches that compositions describe how layers are arranged in space and time, you must define a composition’s spatial attributes, such as its frame size and pixel aspect ratio, as well as temporal aspects such as its duration and frame rate. Composition settings allow you to specify these characteristics, in addition to the resolution or quality of the display of the Composition window. You may change any of the composition

settings at any time. See also Chapter 16, Choose Render Setting, wherein the frame rate and frame resolution as well as Frame Blending, Motion Blue, are set through the Render Settings window.

Adobe After Effects Version 4.1 teaches, “Resizing said full frames to produce a plurality of frames that are antialiased”. Adobe After Effect Version 4.1 teaches in Chapter 16, resizing said full frames to produce a plurality of frames that are antialiased. For example, in Output Module Settings window, one can stretch/resize each full frame that determines the output file format for the movie/composition format in the motion files, TIFF or PICT sequences of frames and one can import into project when done so that the rendered composition or the sequence of frames put back into the project. Adobe After Effect Version 4.1 teaches in Fig. 7.22 of Chapter 7 to scale/resize the frame content of each full frame. Adobe After Effect Version 4.1 teaches in Chapter: Composition Settings Window to resizing each full frame by changing the spatial resolution of each full frame. Adobe After Effect Version 4.1 teaches in Chapter 12 Frame Blending which resizes the plurality of full frames temporally, e.g., from 15 fps to 30 fps by interpolating frames and thus resizing the plurality of full frames. Adobe After Effect Version 4.1 teaches in Chapter 2 using the alpha channel to create anti-aliased frames (See Fig. 2.44) and in Chapter 12 using alpha manipulation mode to create anti-aliased frames (See Fig. 12.40). Adobe After Effects Version 4.1 teaches in Chapter 12 “blur comp” window of Fig. 12.5 to produce an animated layer that appears sharp and distinct as it moves through the frame of the composition. To simulate the effect over time by setting key frames, the Motion Blur switch is activated for an animated layer. Adobe After Effects Version 4.1 teaches “Keyframe Interpolation” for providing spatial and temporal interpolation. One can view and control

temporal interpolation in a speed, value or velocity path to produce smooth frames and thereby also producing antialiased frames by the technique of the keyframe interpolation.

Adobe After Effects Version 4.1 teaches frame blending by activating the Frame Blending switch. When Frame Blending is on, After Effects interpolates between original frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance.

Adobe After Effects Version 4.1 teaches the claim limitation of “blending each consecutive frame to produce a blended frame”. Adobe After Effects Version 4.1 teaches frame blending by activating the Frame Blending switch (See for example, Fig. 16.32 in the Frame Blending pull-down menu, choose Frame Blending switch which specifies whether frame blending will be applied). When Frame Blending is on, After Effects interpolates between original frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance. Blending under various modes are also taught in Chapter 2 such as Stencil and Sihouette Modes and Alpha Manipulation Modes to produce anti-aliased frames (See Figs. 12.40-12.43).

AS ADDRESSED BELOW, Adobe After Effects Version 4.1 published in 2000 has taught the claim invention set forth in the claim 2:

Adobe After Effects Version 4.1 published in 2000 has taught the claim invention.

Adobe After Effects Version 4.1 teaches “rendering of full frames at a whole number of multiple of a digital video resolution value defining the number of pixels contained in each full frame and at a whole number multiple of a temporal resolution value defining the rate of display

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of the full frames on a computer screen". This function is accomplished with Adobe After Effects Version 4.1 within Chapter 4: Composition Settings window, e.g., Fig. 4.8, by changing the Frame Rate, Frame Size having width and height of the image frames wherein the frame resolution may be set from 160*120 to 320 **240 or 640*480** which is a whole number of multiple of a digital video resolution value defining the number of pixels. The frame rate may be set to 30 fps or 60 fps at a whole number multiple of a temporal resolution value defining the rate of display of the plurality of full frames. Additionally, Adobe After Effect Version 4.1 teaches that compositions describe how layers are arranged in space and time, you must define a composition's spatial attributes, such as its frame size and pixel aspect ratio, as well as temporal aspects such as its duration and frame rate. Composition settings allow you to specify these characteristics, in addition to the resolution or quality of the display of the Composition window. You may change any of the composition settings at any time. See also Chapter 16, Choose Render Setting, wherein the frame rate and frame resolution as well as Frame Blending, Motion Blue, are set through the Render Settings window.

Adobe After Effects Version 4.1 teaches, "Resizing said full frames to produce a plurality of frames that are antialiased". Adobe After Effect Version 4.1 teaches in Chapter 16, resizing said full frames to produce a plurality of frames that are antialiased. For example, in Output Module Settings window, one can stretch/resize each full frame to determine the output file format for the movie/composition format in the motion files, TIFF or PICT sequences of frames and one can import into project when done so that the rendered composition or the sequence of frames put back into the project. Adobe After Effect Version 4.1 teaches in Fig. 7.22 of Chapter 7 to scale/resize the frame content of each full frame. Adobe After Effect Version 4.1 teaches in

Chapter: Composition Settings Window to resizing each full frame by changing the spatial resolution of each full frame. Adobe After Effect Version 4.1 teaches in Chapter 12 Frame Blending which resizes the plurality of full frames temporally, e.g., from 15 fps to 30 fps by interpolating frames and thus resizing the plurality of full frames. Adobe After Effect Version 4.1 teaches in Chapter 2 using the alpha channel to create anti-aliased frames (See Fig. 2.44) and in Chapter 12 using alpha manipulation mode to create anti-aliased frames (See Fig. 12.40). Adobe After Effects Version 4.1 teaches in Chapter 12 “blur comp” window of Fig. 12.5 to produce an animated layer that appears sharp and distinct as it moves through the frame of the composition. To simulate the effect over time by setting key frames, the Motion Blur switch is activated for an animated layer. Adobe After Effects Version 4.1 teaches “Keyframe Interpolation” for providing spatial and temporal interpolation. One can view and control temporal interpolation in a speed, value or velocity path to produce smooth frames and thereby also producing anti-aliased frames by the technique of the keyframe interpolation.

Adobe After Effects Version 4.1 teaches frame blending by activating the Frame Blending switch. When Frame Blending is on, After Effects interpolates between original frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance.

Adobe After Effects Version 4.1 teaches the claim limitation of “blending each consecutive frame to produce a blended frame”. Adobe After Effects Version 4.1 teaches frame blending by activating the Frame Blending switch (See for example, Fig. 16.32 in the Frame Blending pull-down menu, choose Frame Blending switch which specifies whether frame blending will be applied). When Frame Blending is on, After Effects interpolates between

original frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance. Blending under various modes is also taught in Chapter 2 such as Stencil and Sihouette Modes and Alpha Manipulation Modes to produce anti-aliased frames (See Figs. 12.40-12.43).

Adobe After Effects Version 4.1 teaches the claim limitation of “Blending the colors and images depicted in pixels that are within a Gaussian blur radius value of a center pixel, wherein the number of pixels blended is proportional to a Gaussian blur radius”. See “Using the Compound Blur Effect”. See, in particular, Chapter 11, Fig. 11.25, the function Choose Effect>Blue&Sharpen>Gaussian Blur, which allows a specification of Gaussian blur radius. See also Chapter 12, Motion Blur. In Fig. 12.5, it shows an animated layer appears sharp (anti-aliased) and distinct as it moves through the frame of the composition. To simulate this effect, activate the Motion Blur switch for an animated layer in a sequence of frames (See Fig. 12.8 wherein the Motion Blur can be applied to a plurality of frames).

Adobe After Effects Version 4.1 teaches the claim limitation of “Separating each full frame of the plurality of full frames into first and second fields, wherein the first fields contain the even lines of the plurality of full frames and the second fields contain the odd lines of the plurality of full frames”. See Fig. 16.33 in the Field Render pull-down menu wherein Field Render specifies whether to field render the output movie). See also Figure 2.71 for Choosing the correct field from Fields and Pulldown menu for choosing/rendering first upper/odd fields or lower/even fields and thereby separating each full frame into first and second fields for the interlaced video. The Upper Field First-Correctly separates the fields of upper/odd-field source

files in which the odd fields are displayed first. The lower/even-field First-correctly separates the fields of lower-field source files wherein the even fields are displayed first.

Adobe After Effects Version 4.1 teaches the claim limitation of Alternately displaying the first and second fields to produce a viewable video. See Frame Blending pull-down menu in Chapter 16, Fig. 16.27-16.34 wherein full resolution frames are rendered by choosing the appropriate settings for frame resolution, frame blending rate, Motion Blur, Motion Blur, and Field Render setting for rendering the odd/fields and/or even fields, etc.

Finally, on PAGE 5 of Applicant's specification, it is stated, "the method is advantageous because it is straightforward to implement with commercial software currently available and produces high quality video."

Applicant has used commercial software to come up with the claim invention, at least the specification in Pages 1-5 preceding the above-quoted passage. Because commercial software constitutes the prior art, the commercial software has taught the applicant's claim invention as Applicant admitted of implementing it to arrive at the method (the claimed invention) and to obtain the high quality video.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15, 19, and 21-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Adobe After Effects Version 4.1 for Macintosh and Windows (www.adobe.com).

Claim 1:

Adobe After Effects Version 4.1 published in 2000 has taught the claim invention.

Adobe After Effects Version 4.1 teaches “rendering of full frames at a whole number of multiple of a digital video resolution value defining the number of pixels contained in each full frame and at a whole number multiple of a temporal resolution value defining the rate of display of the full frames on a computer screen”. This function is accomplished with Adobe After Effects Version 4.1 within Chapter 4: Composition Settings window, e.g., Fig. 4.8, by changing the Frame Rate, Frame Size having width and height of the image frames wherein the frame resolution may be set from 160*120 to 320 **240 or 640***480 which is a whole number of multiple of a digital video resolution value defining the number of pixels. The frame rate may be set to 30 fps or 60 fps at a whole number multiple of a temporal resolution value defining the rate of display of the plurality of full frames. Additionally, Adobe After Effect Version 4.1 teaches that compositions describe how layers are arranged in space and time, you must define a composition’s spatial attributes, such as its frame size and pixel aspect ratio, as well as temporal aspects such as its duration and frame rate. Composition settings allow you to specify these characteristics, in addition to the resolution or quality of the display of the Composition window.

You may change any of the composition settings at any time. See also Chapter 16, Choose Render Setting, wherein the frame rate and frame resolution as well as Frame Blending, Motion Blue, are set through the Render Settings window.

Adobe After Effects Version 4.1 teaches, “Resizing said full frames to produce a plurality of frames that are antialiased”. Adobe After Effect Version 4.1 teaches in Chapter 16, resizing said full frames to produce a plurality of frames that are antialiased. For example, in Output Module Settings window, one can stretch/resize each full frame to determine the output file format for the movie/composition format in the motion files, TIFF or PICT sequences of frames and one can import into project when done so that the rendered composition or the sequence of frames put back into the project. Adobe After Effect Version 4.1 teaches in Fig. 7.22 of Chapter 7 to scale/resize the frame content of each full frame. Adobe After Effect Version 4.1 teaches in Chapter: Composition Settings Window to resizing each full frame by changing the spatial resolution of each full frame. Adobe After Effect Version 4.1 teaches in Chapter 12 Frame Blending which resizes the plurality of full frames temporally, e.g., from 15 fps to 30 fps by interpolating frames and thus resizing the plurality of full frames. Adobe After Effect Version 4.1 teaches in Chapter 2 using the alpha channel to create anti-aliased frames (See Fig. 2.44) and in Chapter 12 using alpha manipulation mode to create anti-aliased frames (See Fig. 12.40). Adobe After Effects Version 4.1 teaches in Chapter 12 “blur comp” window of Fig. 12.5 to produce an animated layer that appears sharp and distinct as it moves through the frame of the composition. To simulate the effect over time by setting key frames, the Motion Blur switch is activated for an animated layer. Adobe After Effects Version 4.1 teaches “Keyframe Interpolation” for providing spatial and temporal interpolation. One can view and control

temporal interpolation in a speed, value or velocity path to produce smooth frames or anti-aliased frames by the technique of the keyframe interpolation.

Adobe After Effects Version 4.1 teaches “frame blending” by activating the Frame Blending switch. When Frame Blending is on, After Effects interpolates between original frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance.

Adobe After Effects Version 4.1 teaches, “blending each consecutive frame to produce a blended frame”. Adobe After Effects Version 4.1 teaches frame blending by activating the Frame Blending switch (See for example, Fig. 16.32 in the Frame Blending pull-down menu, choose Frame Blending switch which specifies whether frame blending will be applied). When Frame Blending is on, After Effects interpolates between original frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance.

Blending under various modes is also taught in Chapter 2 such as Stencil and Sihouette Modes and Alpha Manipulation Modes to produce anti-aliased frames (See Figs. 12.40-12.43).

Claim 4:

The claim 4 encompasses the same scope of invention as that of the claim 1 except additional claim limitation of separating each frame into a first and a second field, wherein the first field contains the even lines of a frame and the second field contains the odd lines of a frame.

However, Adobe After Effects Version 4.1 teaches the claim limitation of “Separating each full frame of the plurality of full frames into first and second fields, wherein the first fields contain the even lines of the plurality of full frames and the second fields contain the odd lines of the

plurality of full frames". See Fig. 16.33 in the Field Render pull-down menu wherein Field Render specifies whether to field render the output movie). See also Figure 2.71 for Choosing the correct field from Fields and Pulldown menu for choosing/rendering first upper/odd fields or lower/even fields and thereby separating each full frame into first and second fields for the interlaced video. The Upper Field First-Correctly separates the fields of upper/odd-field source files in which the odd fields are displayed first. The lower/even-field First-correctly separates the fields of lower-field source files wherein the even fields are displayed first.

Claim 5:

The claim 5 encompasses the same scope of invention as that of the claim 1 except additional claim limitation of alternately displaying the first and second fields of each frame, the first field of each frame with the second field of each frame. However, Adobe After Effects Version 4.1 teaches the claim limitation of "Separating each full frame of the plurality of full frames into first and second fields, wherein the first fields contain the even lines of the plurality of full frames and the second fields contain the odd lines of the plurality of full frames". See Fig. 16.33 in the Field Render pull-down menu wherein Field Render specifies whether to field render the output movie). See also Figure 2.71 for Choosing the correct field from Fields and Pulldown menu for choosing/rendering first upper/odd fields or lower/even fields and thereby separating each full frame into first and second fields for the interlaced video. The Upper Field First-Correctly separates the fields of upper/odd-field source files in which the odd fields are displayed first. The lower/even-field First-correctly separates the fields of lower-field source files wherein the even fields are displayed first.

Claim 6:

The claim 6 encompasses the same scope of invention as that of the claim 1 except additional claim limitation of bicubic interpolation.

However, Adobe-Dynamics-Media-Group further discloses the claim limitation of resizing each full frame of the plurality of full frames to produce a plurality of full frames that are antialiased by performing bicubic interpolation (e.g., Applicant admits on page 4 of applicant's specification that Adobe's AfterEffects teaches bicubic interpolation of pixels for each full frame and Adobe-Dynamics-Media-Group teaches a set of the software such as Adobe AfterEffects, Photoshop and Premier).

Claim 7:

The claim 7 encompasses the same scope of invention as that of the claim 1 except additional claim limitation of blending each consecutive antialiased frame being performed by averaging corresponding pixel values of each frame.

However, Adobe After Effects Version 4.1 teaches, “Resizing each full frame of the plurality of full frames to produce a plurality of antialiased frames”. Adobe After Effect Version 4.1 teaches in Chapter 16, resizing each full frame of the plurality of full frames to produce a plurality of antialiased frames, for example, in Output Module Settings window, one can stretch/resize each full frame that determines the output file format for the movie/composition format in the motion files, TIFF or PICT sequences of frames and one can import into project when done so that the rendered composition or the sequence of frames put back into the project.

Adobe After Effect Version 4.1 teaches in Fig. 7.22 of Chapter 7 to scale/resize the frame content of each full frame. Adobe After Effect Version 4.1 teaches in Chapter: Composition Settings Window to resizing each full frame by changing the spatial resolution of each full frame. Adobe After Effect Version 4.1 teaches in Chapter 12 Frame Blending which resizes the plurality of full frames temporally, e.g., from 15 fps to 30 fps by interpolating frames and thus resizing the plurality of full frames. Adobe After Effect Version 4.1 teaches in Chapter 2 using the alpha channel to create anti-aliased frames (See Fig. 2.44) and in Chapter 12 using alpha manipulation mode to create anti-aliased frames (See Fig. 12.40). Adobe After Effects Version 4.1 teaches in Chapter 12 “blur comp” window of Fig. 12.5 to produce an animated layer that appears sharp and distinct as it moves through the frame of the composition. To simulate the effect over time by setting key frames, the Motion Blur switch is activated for an animated layer. Adobe After Effects Version 4.1 teaches “Keyframe Interpolation” for providing spatial and temporal interpolation. One can view and control temporal interpolation in a speed, value or velocity path to produce smooth frames.

Claim 15:

The claim 15 encompasses the same scope of invention as that of the claim 1 except additional claim limitation of the rendering step being implemented using commercial software.

However, Adobe After Effect Version 4.1 is an commercial software.

Claim 19:

The claim 19 is subject to the same rationale of rejection set forth in the claim 1.

Claim 21:

The claim 21 encompasses the same scope of invention as that of the claim 7. The claim 19 is subject to the same rationale of rejection set forth in the claim 7.

Claim 22:

The claim 22 encompasses the same scope of invention as that of the claim 4. The claim 19 is subject to the same rationale of rejection set forth in the claim 4.

Claim 23:

The claim 23 encompasses the same scope of invention as that of the claim 5. The claim 19 is subject to the same rationale of rejection set forth in the claim 5.

Claim 24:

The claim 24 encompasses the same scope of invention as that of the claim 5. The claim 19 is subject to the same rationale of rejection set forth in the claim 5.

Claim 25:

The claim 25 encompasses the same scope of invention as that of the claim 6. The claim 19 is subject to the same rationale of rejection set forth in the claim 6.

Claim 26:

The claim 26 encompasses the same scope of invention as that of the claim 7. The claim 19 is subject to the same rationale of rejection set forth in the claim 7.

Claim 19:

The claim 19 is subject to the same rationale of rejection set forth in the claim 1.

Claim 2:

Adobe After Effects Version 4.1 published in 2000 has taught the claim invention.

Adobe After Effects Version 4.1 teaches “rendering of full frames at a whole number of multiple of a digital video resolution value defining the number of pixels contained in each full frame and at a whole number multiple of a temporal resolution value defining the rate of display of the full frames on a computer screen”. This function is accomplished with Adobe After Effects Version 4.1 within Chapter 4: Composition Settings window, e.g., Fig. 4.8, by changing the Frame Rate, Frame Size having width and height of the image frames wherein the frame resolution may be set from 160*120 to 320 **240 or 640*480** which is a whole number of multiple of a digital video resolution value defining the number of pixels. The frame rate may be set to 30 fps or 60 fps at a whole number multiple of a temporal resolution value defining the rate of display of the plurality of full frames. Additionally, Adobe After Effect Version 4.1 teaches that compositions describe how layers are arranged in space and time, you must define a composition’s spatial attributes, such as its frame size and pixel aspect ratio, as well as temporal aspects such as its duration and frame rate. Composition settings allow you to specify these characteristics, in addition to the resolution or quality of the display of the Composition window. You may change any of the composition settings at any time. See also Chapter 16, Choose Render Setting, wherein the frame rate and frame resolution as well as Frame Blending, Motion Blue, are set through the Render Settings window.

Adobe After Effects Version 4.1 teaches, “Resizing said full frames to produce the plurality of full frames that are antialiased”. Adobe After Effect Version 4.1 teaches in Chapter

16, resizing said full frames to produce a plurality of frames that are anti-aliased. For example, in Output Module Settings window, one can stretch/resize each full frame that determines the output file format for the movie/composition format in the motion files, TIFF or PICT sequences of frames and one can import into project when done so that the rendered composition or the sequence of frames put back into the project. Adobe After Effect Version 4.1 teaches in Fig. 7.22 of Chapter 7 to scale/resize the frame content of each full frame. Adobe After Effect Version 4.1 teaches in Chapter: Composition Settings Window to resizing each full frame by changing the spatial resolution of each full frame. Adobe After Effect Version 4.1 teaches in Chapter 12 Frame Blending which resizes the plurality of full frames temporally, e.g., from 15 fps to 30 fps by interpolating frames and thus resizing the plurality of full frames. Adobe After Effect Version 4.1 teaches in Chapter 2 using the alpha channel to create anti-aliased frames (See Fig. 2.44) and in Chapter 12 using alpha manipulation mode to create anti-aliased frames (See Fig. 12.40). Adobe After Effects Version 4.1 teaches in Chapter 12 "blur comp" window of Fig. 12.5 to produce an animated layer that appears sharp and distinct as it moves through the frame of the composition. To simulate the effect over time by setting key frames, the Motion Blur switch is activated for an animated layer. Adobe After Effects Version 4.1 teaches "Keyframe Interpolation" for providing spatial and temporal interpolation. One can view and control temporal interpolation in a speed, value or velocity path to produce smooth frames or to produce anti-aliased frames by the technique of the keyframe interpolation.

Adobe After Effects Version 4.1 teaches frame blending by activating the Frame Blending switch. When Frame Blending is on, After Effects interpolates between original

frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance.

Adobe After Effects Version 4.1 teaches the claim limitation of “blending each consecutive full frame to produce a blended frame”. Adobe After Effects Version 4.1 teaches frame blending by activating the Frame Blending switch (See for example, Fig. 16.32 in the Frame Blending pull-down menu, choose Frame Blending switch which specifies whether frame blending will be applied). When Frame Blending is on, After Effects interpolates between original frames, blending them, rather than simply repeating them and thus producing smooth frames without the jerky appearance. Blending under various modes are also taught in Chapter 2 such as Stencil and Sihouette Modes and Alpha Manipulation Modes to produce anti-aliased frames (See Figs. 12.40-12.43).

Adobe After Effects Version 4.1 teaches the claim limitation of “Blending the colors and images depicted in pixels that are within a Gaussian blur radius value of a center pixel, wherein the number of pixels blended is proportional to a Gaussian blur radius”. See “Using the Compound Blur Effect”. See, in particular, Chapter 11, Fig. 11.25, the function Choose Effect>Blue&Sharpen>Gaussian Blur which allows a specification of Gaussian blue radius. See also Chapter 12, Motion Blur. In Fig. 12.5, it shows an animated layer appears sharp (anti-aliased) and distinct as it moves through the frame of the composition. To simulate this effect, activate the Motion Blur switch for an animated layer in a sequence of frames (See Fig. 12.8 wherein the Motion Blur can be applied to a plurality of frames).

Adobe After Effects Version 4.1 teaches the claim limitation of “Separating each full frame of the plurality of full frames into first and second fields, wherein the first fields contain

the even lines of the plurality of full frames and the second fields contain the odd lines of the plurality of full frames". See Fig. 16.33 in the Field Render pull-down menu wherein Field Render specifies whether to field render the output movie). See also Figure 2.71 for Choosing the correct field from Fields and Pulldown menu for choosing/rendering first upper/odd fields or lower/even fields and thereby separating each full frame into first and second fields for the interlaced video. The Upper Field First-Correctly separates the fields of upper/odd-field source files in which the odd fields are displayed first. The lower/even-field First-correctly separates the fields of lower-field source files wherein the even fields are displayed first.

Adobe After Effects Version 4.1 teaches the claim limitation of Alternately displaying the first and second fields to produce a viewable video. See Frame Blending pull-down menu in Chapter 16, Fig. 16.27-16.34 wherein full resolution frames are rendered by choosing the appropriate settings for frame resolution, frame blending rate, Motion Blur, and Field Render setting for rendering the odd/fields and/or even fields, etc.

Claim 3:

The claim 3 encompasses the same scope of invention as that of the claim 2. The claim 2 is subject to the same rationale of rejection set forth in the claim 2.

Claim 8:

(a) The claim 8 encompasses the same scope of invention as that of the claim 1 except additional claim limitation of gaussian blurring of a non-zero pixel radius being performed that blends the colors and images depicted in pixels that are within a gaussian blur radius value of a center pixel. Adobe After Effects Version 4.1 teaches the claim limitation of "Blending the

colors and images depicted in pixels that are within a Gaussian blur radius value of a center pixel, wherein the number of pixels blended is proportional to a Gaussian blur radius". See "Using the Compound Blur Effect". In particular, See Chapter 11, Fig. 11.25, Choose Effect>Blue&Sharpen>Gaussian Blur which allows a specification of Gaussian blue radius. See also Chapter 12, Motion Blur, in Fig. 12.5, it shows an animated layer appears sharp (anti-aliased) and distinct as it moves through the frame of the composition. To simulate this effect, activate the Motion Blur switch for an animated layer in a sequence of frames (See Fig. 12.8 wherein the Motion Blur can be applied to a plurality of frames).

Claim 9:

The claim 9 encompasses the same scope of invention as that of the claim 2 except additional claim limitation that is identical to the claim 6. The claim 9 is subject to the same rationale of rejection set forth in the claim 6.

Claim 10:

The claim 10 encompasses the same scope of invention as that of the claim 2 except additional claim limitation that is identical to the claim 7. The claim 10 is subject to the same rationale of rejection set forth in the claim 7.

Claims 11-14:

Each of the claims 11-14 encompasses the same scope of invention as that of the claim 2. The claims 11-14 are subject to the same rationale of rejection set forth in the claim 2.

Claim 27:

(a) The claim 27 encompasses the same scope of invention as that of the claim 26 except additional claim limitation of gaussian blurring being performed that blends the colors and images depicted in pixels that are in proximity to one another in each frame. Adobe After Effects Version 4.1 teaches the claim limitation of “Blending the colors and images depicted in pixels that are within a Gaussian blur radius value of a center pixel, wherein the number of pixels blended is proportional to a Gaussian blur radius”. See “Using the Compound Blur Effect”. In particular, See Chapter 11, Fig. 11.25, Choose Effect>Blue&Sharpen>Gaussian Blur which allows a specification of Gaussian blue radius. See also Chapter 12, Motion Blur, in Fig. 12.5, it shows an animated layer appears sharp (anti-aliased) and distinct as it moves through the frame of the composition. To simulate this effect, activate the Motion Blur switch for an animated layer in a sequence of frames (See Fig. 12.8 wherein the Motion Blur can be applied to a plurality of frames).

Claims 28-29:

Each of the claims 28-29 encompasses the same scope of invention as that of the claim 2. The claims 28-29 are subject to the same rationale of rejection set forth in the claim 2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15, and 19, 21-29 are rejected under 35 U.S.C. 102(b) as being anticipated by

Admission.

Re Claims 1-15, 19 and 21-29:

See MPEP 2129. Where the specification identifies work done by another as “prior art,” the subject matter so identified is treated as admitted prior art. In re Nomiya, 509 F.2d 566, 571, 184 USPQ 607, 611 (CCPA 1975) (holding applicant’s labeling of two figures in the application drawings as “prior art” to be an admission that what was pictured was prior art relative to applicant’s improvement).

At lines 28-29 ON PAGE 5 of Applicant’s specification, it is stated, “the method is advantageous because it is straightforward to implement with commercial software currently available and produces high quality video.”

Applicant has used commercial software to come up with the claim invention, at least the specification in Pages 1-5 preceding the above-quoted passage. Because commercial software constitutes the prior art, the commercial software has taught the applicant’s claim invention as Applicant admitted of implementing it to arrive at the method (the claimed invention) and thus to obtain the high quality video.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw *Jincheng Wang, P. E.*

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